CAME

CE

ACCESS
CONTROL SYSTEM

INSTALLATION MANUAL

RBM21 - HW

English **EN**

SUMMARY

What is the RBM21?

RBM21 is a control system that simplifies the management of access points.

It lets you program in **Stand Alone mode** (directly on the control board) or **On Line** by connecting it to a personal computer and installing the corresponding **dedicated Came Software** (compatible with Windows Xp and subsequent operating systems).

In Stand Alone **mode** you can program only RBM21's basic functions, such as, adding and deleting Cards for normal access.

Whereas **in On Line mode** you can program the system even for prepaid access (number of entries), scheduled credit (quantity of time), anti-PassBack (single-member using the Card) and timed anti- PassBack (entry granted at certain time intervals).

Technical data

Power supply	230 V AC
Power draw	50 mA
Relay output	3
Traffic light output	1 (can be activated only in On-Line mode)
RS 232 Port for connecting to a PC	Maximum distance 5 m
RS 485 Port for connecting to a PC	Maximum distance 1,000 m, with PC40 interface
Memorizable Cards	500 among Proximity Cards and / or Swipe (magnetic) Cards
Programming	with Main Card or Password in Stand-Alone mode; via software in On-Line mode

RBM21 control board- description

1. Sensor Termimals
2. Relay Outputs Terminals
3. Power supply Terminals
4. Programming Buttons
5. Functions Display
6. RS 232 Port for connecting to PC max. 5 m
7. RS 485 Port for connecting to PC up to 1,000 m
8. Relay 2 timer trimmer
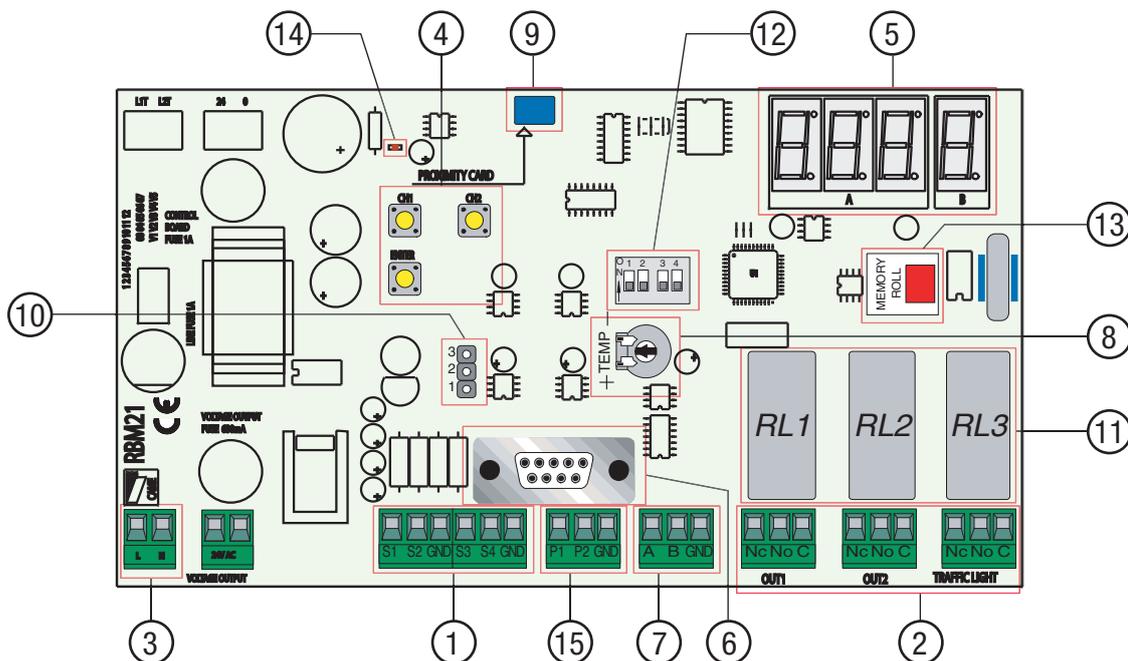
9. On-board Proximity Sensor
10. On-board sensor selector strip
11. Relay
12. Functions Dip-switches
13. Memory Roll Card
14. Control Board power supply LED
15. Magnetic Coil Terminals

Display Messages

When you power on the RBM21, if the memory is completely empty, all of the central segments on the display will light up.

If any memory locations are already taken, the left-hand display will shown a dash.
It also shows the Stand By position.

DIP switch functions

DIP switch 1   ON
Managing the traffic light via the magnetic coil

DIP switch 3   ON
Relay n. 1 step-by-step

DIP switch 2   ON
Differentiated Discharge

DIP switch 4
No function, leave OFF.

On-Board Sensor

This is a proximity sensor built-into the control board.
It emulated reader 4 and is for memorizing the Cards (only proximity cards) directly onto the control board; when readers are located far off.
To activate it (and deactivate it at the end of the memorization process) use the selection strip.

Connections

SELECTING THE ON-BOARD SENSOR

Bridge **1** and **2** enable reader **4** (default)

Bridge **2** and **3** enable On-Board sensor
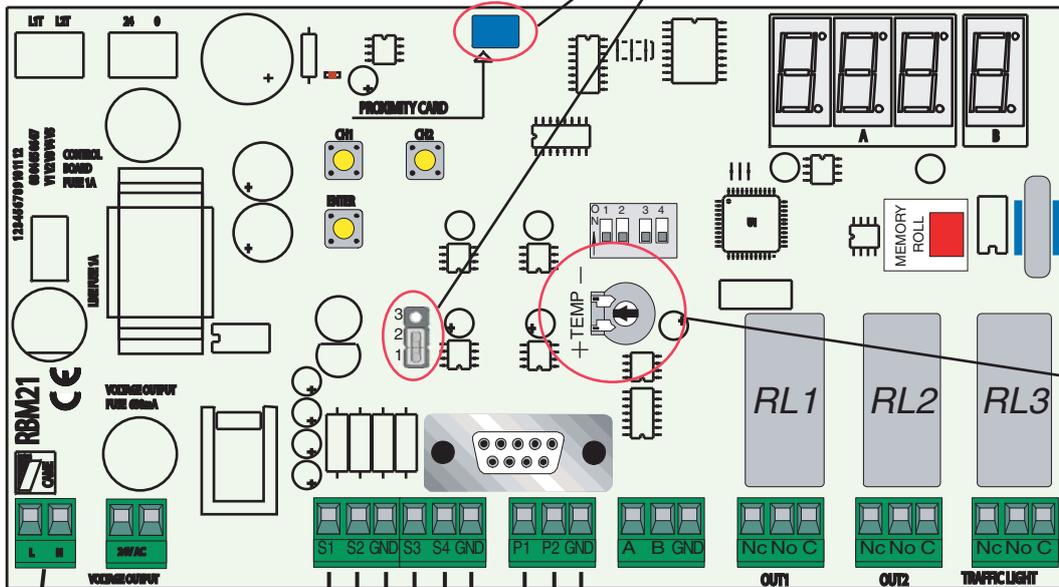
Time-Scheduler Setting Relay 2 (RL2) from 1" to 5'

Power supply 230 V AC
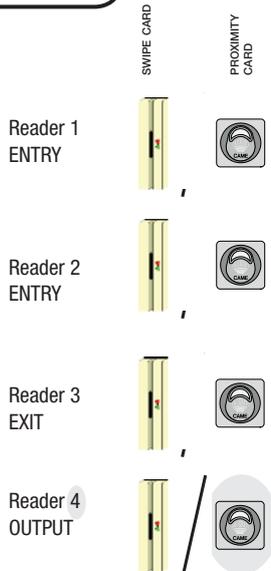
Relay 1 Contact Output (RL1) max 10 A - 230 V

Relay 2 Contact Output (RL2) max 10 A - 230 V

Relay 3 Contact Output (RL3) Traffic Light max. 5 A - 230 V

SWIPE CARD

PROXIMITY CARD

Reader 1 ENTRY

Reader 2 ENTRY

Reader 3 EXIT

Reader 4 OUTPUT

P1-GND Connection (NO) Entry coil

P2-GND (NO) Connection Exit coil

① = Red
② = Black

RL1 RL2 RL3

S1 S2 GND S3 S4 GND P1 P2 GND A B GND Nc No C Nc No C Nc No C

OUT1 OUT2 TRAFFIC LIGHT

P VACANT FULL

📖 The following pages illustrate all of the procedures that can be managed in **Stand-Alone mode** with **proximity sensors**; for swipe **readers** use the same instructions, but be careful that, where it says "hold close", "position", "pass" or "present", you will need to swipe the card through the reader.

For the on-line mode instructions , please refer **Came**.

Memorizing 1to Card (Main Card)

The **The Rbm21 always considers** the first memorized Card as the **Main Card**, with which you can do all of the procedures described here. You must therefore be careful to keep it safe because, together with the Memory Roll card, it is indispensable for making any changes or for restoring Card programming.

	Sequence of steps ①		*What appears on the Display*	
A	Press **ENTER**	ENTER	Displays **F - 1**	F - 1
B	Press **ENTER** again	ENTER	Flashing **F - 11**	F - 11
C	To **change the relay** you want to control, press **CH1 once or twice**, otherwise go on to the next step ②	CH 1	It changes the relay associated to the Main Card	F-11 F-12 F-13
D	Hold the **1st Card close** to the sensor for two seconds		The Stand By symbol appears to confirm **that the Main Card is memorized** ③	-888
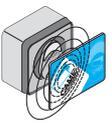
📖① In this, as with all following sequences, if more than 10 seconds elapse between one step and the next, the Rbm21 returns to its Stand-By position and you will need to start again.

📖② The Rbm21 assigns relay 1 by default; number 3 means both relays are activated (not the traffic light relay).

📖③ Card memorization is always confirmed by the flashing of either the redo or green sensors, on the front piece.

Creating a^{2nd} Main Card

Using an already memorized Card you can create a second Main Card.
📖 The RBM21 only accepts two Main Cards

	Sequence of steps		*What appears on the Display*	
A	Hold the **Main Card close**			0.0.1.1
B	Press **ENTER**	ENTER	Displays **F - 1**	F - 1
C	Press **CH1**	CH 1	Displays **F - 2**	F - 2
D	Press **ENTER**	ENTER	Flashing **F - 2**	F - 2
E	Holde the Card you want to memorize^{as 2nd} Main Card		Once memorization is complete, the display will show **F - 2 M** steady (not flashing)	F - 2 M
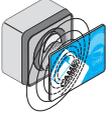
Memorizing Cards ④

After the Main Card you can memorize all of the other Cards, **on the On-Board sensor**...

	Sequence of steps		*What appears on the Display*	
A	Hold **the Main** Card **close the** on-board sensor twice	**2x**	After the position of the Main Card (001), the first available position **flashes**	0021
B	To **change the relay** to command, press **CH1 once or twice**, otherwise move on to the next step	CH 1	Change the relay associated with the available position	0021 relay 1 / 0022 relay 2 / 0023 relays 1+2
C	Hold the **Card you want** to memorize close, for three seconds		Once memorized, S t **o will appear**... ... and then the next available position will flash	5to / 0031
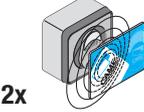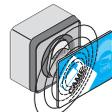
At this point, you may continue memorizing other Cards (by repeating the previous two steps) or you can let 10 seconds elapse until the Rbm21 returns to its Stand-By position.

... or **directly on the TSP00**, without actually switching on the board (this is a quicker procedure to add Cards, but it excludes the possibility of associating both relays to the Card).

	Sequence of steps		*Sensor's LED flashing sequence* V = green R = red
A	Within **three seconds,** hold the Main Card **twice close** to the	**2x**	1st^pass 2nd^pass sensor, then, for 10" it will flash with lesser frequency while waiting for a relay change or for the Card to be memorized RELAY 1
B	To **change the relay** from 1 to 2 and vice versa, hold **the Main** Card **close to the sensor for a third time**, otherwise move on to the next step		you can recognize relay 2 from the longer lasting green flashing RELAY 2
C	Hold the **Card you want** to memorize close to the sensor for about three seconds		3 green flashes, confirm that the Card is memorized
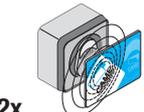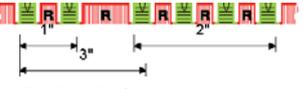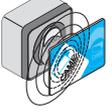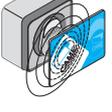
At this point, you may continue memorizing other Cards (by repeating the previous two steps) or, you can let 10 seconds elapse until the Rbm21 returns to it Stand By position (the red LED stays on)

📖④ There is **no On-Board** sensor for magnetic cards, so you can only proceed with **the first procedure** and at least on LT001 sensor connected and near the Rbm2 control board (this configuration is also required for all of the other procedures).

Deleting Cards

At any time you can delete one or more Cards.

	Sequence of steps		What appears on the Display
A	Hold one of **the Main Cards close**		
B	Press **ENTER**	ENTER	Displays **F - 1**
C	Press CH1 three **times**	3x CH 1	Displays **F - 4**
D	Press **ENTER**	ENTER	The first **memory location** appears [5]
E	Press **CH1** or **CH2** to choose the location to delete	CH 1 001-> 002-> 003-> ... 001-> 500-> 499-> ... CH 2	The location **to delete appears**, for example, location number 5 [6]
F	Press **ENTER**	ENTER	Once the location is deleted, **the entire display flashes** [7]

📖 [5] Be careful **not to cancel the main Card Master** (position 001, always has 3 flashing points).

📖 [6] If the letter **C** flashes, it means that in that location there are no memorized Cards.

📖 [7] Continue with another Card to delete or let 10 seconds elapse to continue with another procedure.

Deleting Cards TOTALLY

Procedure that **zeros the Rbm21's memory**; all of the Main Cards are deleted.

	Sequence of steps		What appears on the Display
A	Hold one of **the Main Cards close**		
B	Press **ENTER**	ENTER	Displays **F - 1**
C	Press four times **CH1**	4x CH 1	Displays **F - 5**
D	Press and keep pressed **ENTER**, for about 10 seconds	ENTER	C L **r A** appears and flashes; after 10 seconds the writing stays lit
E	Release **ENTER**	ENTER	It displays the symbol **that the board is completely empty** [8]
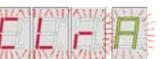
📖 [8] To operate again with the Rbm21, you need to start again from "Memorizing 1 to Card" on p. 5.

Change Password

The Rbm21 features a Password that lets it operate without the help of the Main Card. The default Password is **1 2 3**, and it can be changed to any number between 1 and 500, in the following manner:

	Sequence of steps		*What appears on the Display*	
A	Hold one of **the Main Cards close**			
B	Press **ENTER**	ENTER	Displays **F - 1**	
C	Press five times **CH1**	CH 1 5x	Displays **F - 6**	
D	Press **ENTER**	ENTER	The current **Password appears** (in the example, the default one)	
E	Press **CH1** or **CH2** to select a new Password	CH 1 001-> 002-> 003-> ... 001-> 500-> 499-> ... CH 2	The new **Password appears**, for example **4 4 4**	
F	Press **ENTER**	ENTER	The Stand By symbol appears to confirm **the new Password is memorized**	
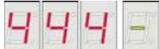
Transcribe the new Password here so you won't forget it

Using the Password to memorize Cards

Replace this sequence with step **A** "Hold the Main Card close twice" ...

	Sequence of steps		*What appears on the Display*	
	Press **ENTER**	ENTER		
Replace operation A	Press **CH1** work **CH2** to view the Password	CH 1 001-> 002-> 003-> ... 001-> 500-> 499-> ... CH 2	The Password **appears**	
	Press **ENTER**	ENTER	Displays **F - 1**	
	Press twice **CH1**	CH 1 2x	Displays **F - 3**	

... and continue with the other steps shown in the "Memorizing Cards" procedure on p. 6.

Using the Password with other procedures

Replace this sequence with step **A** "Hold the Main Card close" ...

	Sequence of steps		What appears on the Display	
Replace operation A	Press **ENTER**	ENTER		`001-`
	Press **CH1** or **CH2** to view the Password	CH 1 001-> 002-> 003-> ... 001-> 500-> 499-> ... CH 2	The Password **appears**	`444-`

... and continue with the other steps shown in the procedures:

- "Creating a²ⁿᵈ Main Card" on p. 5
- "Deleting Cards" of p. 7
- "Change Password" on p. 8

- "Deleting Cards totally" on p. 7
- "Saving data" on p. 10
- "Restoring data" on p. 10

Manage Parking

Parking facility managed via entry and exit coils and traffic light (DIP switch 1 set to ON).

	Sequence of steps		What appears on the Display	
A	Press twice **ENTER**	ENTER 2x	Displays **F - 1**	`F-1`
B	Press **ENTER**	ENTER	Displays **L**	`0.0.1.L`
C	Press **CH1 and CH2** to set the system capactity	CH 1 CH 2	The number of parking spaces we want to set appears	`0.1.1.L`
D	Press **ENTER**	ENTER		
E	Press **CH2**	CH 2	Displays **F - 2**	`F-2`
F	Press **ENTER**	ENTER	Displays **0**	`0.0.0.0`
G	Press **CH1 and CH2** to set the number of busy parking spaces	CH 1 CH 2		`0.0.2.0`
H	Release **ENTER**	ENTER		

When the entry coil is enabled, the countdown is scaled up and the OUT 1 relay triggers.

When the exit coil is activated, the countdown is scaled down and Relay OUT 2 triggers.

When the system capacity is reached (step C) the Parking relay triggers and inhibits contact P1 (entry) while the exit one (P2) always remains enabled.

Saving data

This procedure allows you to save the data memorized in the RBM21, transferring them into the MEMORY ROLL card.

For this, as well as the following procedure, you need to fit the Memory Roll card into its corresponding connector; see fig. ①.

Fig. ①
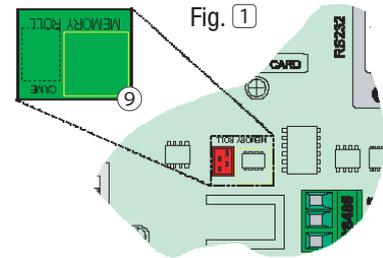
⚠⁹ Every time you either connect or disconnect the Memory Roll, you need to be careful and remember to cut off the main power supply to the Rbm21.
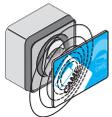
		Sequence of steps		*What appears on the Display*	
A	Hold one of **the Main Cards close**				*0.0.1.1*
B	Press **ENTER**	ENTER	Displays **F - 1**		*F - 1*
C	Press six times **CH1**	CH 1 6x	Displays **F - 7**		*F - 7*
D	Press **ENTER**	ENTER	Displays **F - 7 U**		*F - 7U*
E	Release **ENTER**	ENTER	After a few seconds, it displays the **Stand By symbol** ¹⁰		*- 8 8 8*

📖¹⁰ The waiting time depends on the quantity of data to download or upload; the Rbm21 goes into Stand By to when the procedure is completed. Cut off the main power supply, remove the Memory Roll and file it in a safe place.

Restoring Data ¹¹

This procedure lets you **restore the data** you stored, sourcing them form the MEMORY roll card.
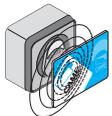
		Sequence of steps		*What appears on the Display*	
A	Hold one of **the Main Cards close**				*0.0.1.1*
B	Press **ENTER**	ENTER	Displays **F - 1**		*F - 1*
C	Press seven times **CH1**	CH 1 7x	Displays **F - 8**		*F - 8*
D	Press **ENTER**	ENTER	Displays **F - 7 d**		*F - 8d*
E	Release **ENTER**	ENTER	After a few seconds, the Stand By **symbol appears** ¹⁰		*- 8 8 8*

📖¹¹ If replacing the Rbm21 control board or deleting the Main Card, to restore the date you will need to have the same actual Main Card that you memorized on Memory Roll (or the²ⁿᵈ Main Card, in case you have lost the Main one), and first perform the procedure on p. 6.

Installing the Software

Only for **working in On-line mode** (managing via Personal Computer), you will need to install the software from the CD supplied with the RBM21; once it is installed, to program the system please see the corresponding PDF Guide that comes in the CD.

Minimum system requirements:
- Windows Xp Professional / Windows 7 Professional / Windows 8 Professional operating system;
- RS232serial port (alternatively use a USB/RS232 converter by installing the corresponding drivers).

Fit the CD into the reader and wait for the installation dialogue window to open (or launch the executable *setup.exe* from the file *RBM21_vxx\Install* on your PC, if locally copied).
Follow the instructions, always accepting the proposals except the one for the installation path.

CAREFUL! With Windows 7 and Windows 8, we suggest changing the installation path proposed by the software, by creating a new folder on your local disk C:\.
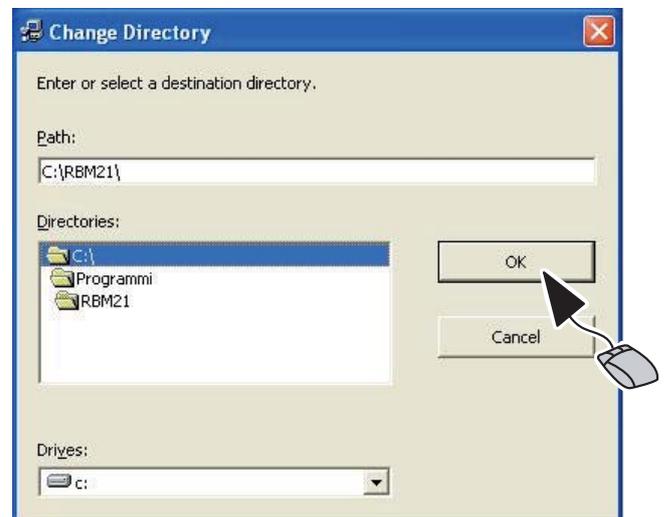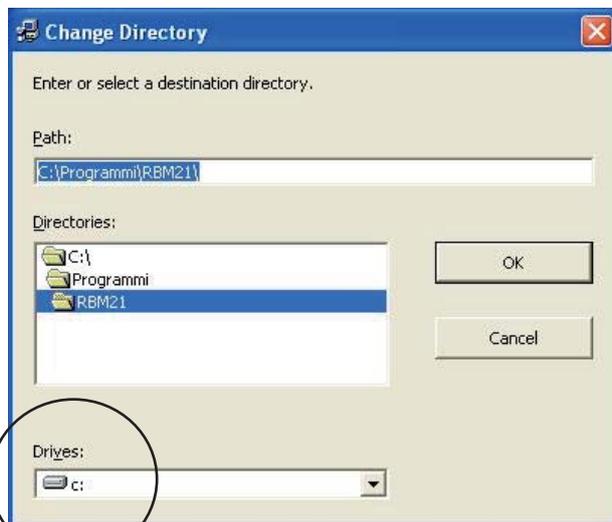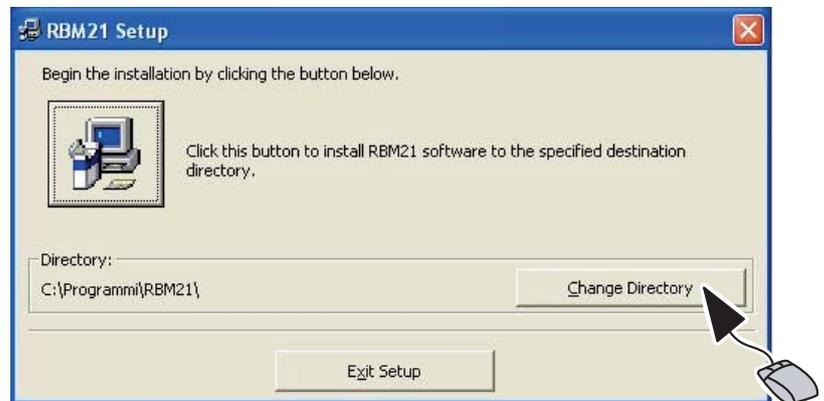
The installation folder name may be customized

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